

Utah Division of Solid & Hazardous Waste

Incident Summary of Thermo Fluids PCB Contamination Inspection August 22, 2014

Date	Records	Event Narrative
08/20/2014	Bill of Lading #2623526 JBT Aerotech	Thermo Fluids driver, Steve Simco, collected 350 gallons of used oil from JBT Aerotech in Ogden, Utah in truck # OCT123, which later was determined to be contaminated with PCBs.
08/20/2014	Tank # 20 Log	Steve Simco, pumped 5,010 gallons of used oil into Tank # 20 using truck # OCT 123 on August 20, 2014. This used oil load was later determined to be contaminated with PCBs.
08/20/2014	1.Chain of Custody Record 2.Tank # 20 log record	Facility Operations Manager, Robert Vaughn, locked down Tank # 20 after collecting a sample for analysis. The tank has a capacity of 20,000 gallons. Mr. Darren Myers stated to the inspector that the facility usually does not fill the tanks, as they need tested oil on a quicker turnaround time to sale to their customers, and so they often do not wait until the tank is full to test. The tank contained 9,929 gallons of used oil when it was locked down after the sample was collected. Robert Vaughn FED EXed the sample collected from Tank # 20 to Precision Petroleum Labs, Inc.; on August 21, 2014- FEDEX tracking # 770882234994.
08/21/2014	1.Tank # 17 log record 2.Chain of Custody Record Sample collection Tank # 20	Driver, Steve Simco, collected used oil with truck # OCT 123 on August 21, 2014. He pumped 4,365 gallons of collected used oil from his truck into Tank # 17 on August 21, 2014. Tank # 17 had a total of 9,644 gallons of used oil as of August 21, 2014 that still had PCB contamination from truck # OCT123. Tank # 17 was locked down at 4:00 pm on August 21, 2014 and a sample was sent for analysis.
08/22/2014	No truck collection	Driver, Steve Simco, had the day off August 22, 2014 and no oil was collected in truck OCT123.
08/22/2014	1.Precision Petroleum Labs Analytical for Tank # 20 2. Email to Darren Myers, Robert Vaughn, with analytical data for Tank # 20 (11:16 am on Friday August 22, 2014)	<p>Precision Petroleum Labs emailed to Darren Meyers, Robert Vaught and Leonard Marr of Thermo Fluids at 11:16 am on August 22, 2014 analytical results documenting that Tank #20 had PCB contamination. Darrin Myers indicated he was on vacation and did not get back to the office until August 26, 2014.</p> <p>The facility had analytical data showing PCB contamination in locked down tank # 20. By transferring PCB contaminated used oil into tank #17 from truck #OCT123, the facility should have determined both tanks were now contaminated with PCBs. Furthermore, due to ThermoFluids operation errors, PCB contaminated oil was transferred to the tank piping system, Tank #18, and Tank #26.</p>
08/23 and 08/24, 2014	Facility was closed on the 23 rd and 24 th and facility did not collect any used oil.	The facility is closed on the weekends. Tanks #20 and #17 held a total of 19,573 gallons of PCB contaminated used oil as of August 22, 2014. Both tanks were locked down for analytical results/review. Tank #17 results were reported to Thermo Fluids unknown date of receipt.

Utah Division of Solid & Hazardous Waste

Incident Summary of Thermo Fluids PCB Contamination Inspection August 22, 2014

Date	Records	Event Narrative
08/25/2014	<ol style="list-style-type: none"> 1. Driver BOLs for used oil collected on 08/25/2014 2. Tank # 18 log records 3. Analytical Data Tank # 18 Collected August, 18, 2014 Analytical Data # 18 retest retain sample. 	<p>Driver, Steve Simco, collected used oil on Monday, 8/25/2014 with the PCB contaminated truck # OCT123. The used oil from the contaminated PCB truck #OCT123, was pumped into tank # 18 on 08/25/2014. Mr. Darren Myers told the inspector he asked the laboratory to retest the used oil sample pulled from Tank #18 by Robert Vaughn on August 18, 2014, before the PCB contaminated oil was pumped into it on August 25, 2014. The Precision laboratory invoice # 61979 has results for Tank # 18, but the invoice has the sample collected on August 21, 2014. Darren Myers states that it is a paperwork mistake. He indicated he requested the laboratory to retest the sample; there is not a chain of custody for this sample.</p>
8/25/2014	Tank #26 log record	<p>Operations manager, Robert Vaughn, transferred the used oil from locked down tanks # 20 and #17 to Tank # 26 on August 25, 2014. The PCB contaminated used oil was transferred through the piping system into tank # 26. Tank # 26 contained 52,179 gallons of used oil on 8/22/2014 before the transfer of PCB contaminated oil on August 25, 2014.</p> <p>The facility transferred 9,425 gallons of used oil from truck OCT88 to Tank # 26 that was on-specification used oil from Thermo Fluids Beowanwe facility in Nevada on August 25, 2014. Robert Vaughn loaded PCB contaminated used oil from Tank #26 into truck OCT134 on August 25, 2014 for delivery to a client in Beaver, Utah.</p>
8/26/2014	Facility Records	<p>Mr. Darren Meyers returned to the facility on Tuesday and reviewed the analytical data to discover the PCB contamination.. He called all vehicles back to the facility, and began the investigation. Darren Meyers contacted the driver of truck OCT134, on August 26, 2014 and cancelled the delivery to Beaver, and had the driver return the used oil to the facility. The August 27, 2014 entry on tank # 26 log shows the used oil loaded into truck # OCT134 was returned to tank # 26. Darren Myers wrote the log entry but Darrin Meyers signed Robert Vaughn's initials on the record. Thermo Fluids pulls a retain sample daily from each collection truck and keeps the samples for 60 days. Thermo Fluids collected a used oil sample from the JBT tank on August 27, 2014 and the analytical showed PCB contamination.</p> <p>Operations Manager, Robert Vaughn was terminated after this incident. He had been with the company 21 years.</p>



The Responsible Solution
(800) 350-7565

IST LOG# 16325

US DOT #: 841752

Gross Wt:

Tare Wt:

Net Wt:

Truck #:

Trailer #:

Customer/Generator

Transporter

Receiving Facility

Name	TBT Degreaser - Thermo Systems	Name	260	Name	260
Address	3100 Rounding Hill Rd	Address		Address	
City, St Zip	Chula Vista, CA 92011-3328	City, St Zip		City, St Zip	
Phone	601-622-3328	Phone		Phone	
EPA ID Number		EPA ID Number		EPA ID Number	

Remit to:
Thermo Fluids Inc
MSC #285
PO Box 29048
Phoenix, AZ 85038

Method of Payment (circle one)

PO #

Field Test Result

Service Frequency

CASH

CHECK

Auth/Check #

Q-4000

ppm

CREDIT CARD

TERMS

Cash

HydroChlor

ppm

EL	PU	HM	Proper Shipping Description	Tank Size / Capacity	Tank #	# of Containers	Container Type	Total QTY	Unit of Measure	Price	Total
	X		Non-Regulated Liquid, Used Oil					350	gal	.10	35.00
			Non-Regulated Liquid, Used Oil Filters								
			Non-Regulated Solid, Used Specialty Filters								
			Non-Regulated Liquid, Used Antifreeze								
			Non-Regulated Liquid, New Antifreeze (circle one) HD Premix, HD Long-Life (), Concentrate								
			Non-Regulated Liquid, Used Parts Cleaner (circle one) Solvent, Service ()								
			Non-Regulated Liquid, ()								
			Non-Regulated Solid, ()								
X			76.7 gal					1	gal	15.00	15.00
		X	UN1993, Combustible Liquid, n.o.s. (Unused Fuel) PGIII, ERG 128, Diesel, Jet Fuel								
		X	NA 1993, Combustible Liquid, n.o.s. (Methanol) ERG 128 (Windshield Washer Fluid) Summer, All Season, Winter								
		X	UN 1993, Flammable Liquids, n.o.s. (Methanol), Class 3, PG III ERG 128 (Windshield Washer Fluid) Extreme Winter Blend								
		X	RQ, UN3082, Environmentally Hazardous Substance, Liquid n.o.s. (Ethylene Glycol), 9, PGIII ERG 171 (Used Antifreeze)								
		X	RQ, UN3082, Environmentally Hazardous Substance, Liquid n.o.s. (Ethylene Glycol), 9, PGIII ERG 171 (New A/F) HD Premix, HD Long-Life, Concentrate								

GENERATOR SIGN BELOW: This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Subject to terms and conditions as specified on reverse side of form.

Fuel Charge

13.35

%

660

Fuel Charge Tax Rate

%

Sales Tax

%

TOTAL

56.65

Signature	Signature	Signature
Print Name	Print Name	Print Name
Date	Date	Date

In Case of Emergency contact CHEMTREC and identify Thermo Fluids as contract holder 800-424-9300

BO	YD	AT	DT	O	YA	EO	ET
SO	S	SO	S	SO	S	SO	SO

- TPI OFFICE USE ONLY -

		20						260
	8-8-14		AV				889	STARTING GALLONS
1	8/14/14	66113	SS	2623445-501	300	4795	5634	
2	8-19-14						559	4795g. TRANSFER TO 26
3	8/20/14	66116	AV	2623354-68	200	4030	4919	
4	8/20/14	66113	SS	2623524-30	200	5010	9429	
5	8-25-14		AV	2623717			889	9040g.
6								
7								
8								
9								
10								
11								

-site for 60 days - Use one log sheet per tank.

Unauthorized use, copying or distribution of this information is prohibited.

TANK 20

Oct 15

Myers, Darren

From: Rachel Garcia <rachelppl@att.net>
Sent: Friday, August 22, 2014 11:16 AM
To: Myers, Darren; Marr, Leonard; Vaughn, Robert
Subject: Emailing: 2014-08-745 TFI Saalt Lake RFO 26 20 mg
Attachments: 2014-08-745 TFI Saalt Lake RFO 26 20 mg.pdf

Your message is ready to be sent with the following file or link attachments:

2014-08-745 TFI Saalt Lake RFO 26 20 mg

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

PRECISION PETROLEUM LABS, INC.

CERTIFICATE OF ANALYSIS

LABORATORY ADDRESS 5915 Star Lane, Houston, TX 77057 Ph. 713-680-9425 Fax: 713-680-9564 Website: precisionlabs.org	Client Name: Thermo Fluids Salt Lake City, UT Street Address: 3545 W. 500 So City, State, Zip: Salt Lake City UT 84104
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INVOICE No.	61879	DATE RECEIVED	08-21-2014
LAB REFERENCE No.	2014-08-745	DATE/TIME COLLECTED	08-20-2014@4:00pm
AUTHORIZED BY	Robert Vaughn	MATRIX TYPE	Liquid
PRODUCT ID	(RFO 26) 20		

TEST	TEST METHOD	REPORTING LIMIT	TEST RESULTS
Gravity API @ 60°F	D-287	---	31.4
Flash Point, °F	S.W. 1010	-10°F	> 200
Viscosity CST @ 40°C	D-445	1	53.02
Pour point, °F	D-97	-10°F	< -10
Sulfur, Wt%	D-4294	0.020	0.3000
Ash, Wt%	D-482	0.001	0.709
Total halogen, PPM	S.W. 9077	---	PASS
Total halogen, PPM	S.W. 9075	200	BRL
PCB's, PPM (1016)	S.W. 8082	0.50	21.92
Water by distillation, Vol%	D-95	0.05	2.0
Sediment by extraction, Wt%	D-473	0.01	0.16
Heat of combustion, BTU/Lb	D-240	2,150	18,971
Heat of combustion, BTU/GAL	D-240	2,150	137,217
Pounds per gallon @ 60°F	---	---	7.233
Glycols, Wt%	G.C./FID	0.10	0.24

Total Metal	Test Method	Preparation Method	Reporting Limit, PPM	Test Result
Arsenic	EPA-6010C	EPA-3040	1.00	BRL
Barium	EPA-6010C	EPA-3040	1.00	4.28
Cadmium	EPA-6010C	EPA-3040	1.00	BRL
Chromium	EPA-6010C	EPA-3040	1.00	2.57
Lead	EPA-6010C	EPA-3040	2.00	47.36
Phosphorus	EPA-6010C	EPA-3040	1.00	903.84

Daniel Zabihi
QA Manager

Date: 08-22-2014



PRIMARY ACCREDITATION TCEQ, #T104704203-TX
ARIZONA LICENSE # AZ0630

QUALIFIERS & ABBREVIATIONS: BRL - Below Reporting Limit; SCL - Test performed by an approved subcontract laboratory; B - Analyte was detected in the associated method blank; Matrix spike/matrix spike duplicate (M), Laboratory control sample (L), Calibration criteria (C), and Surrogate (S) recoveries were outside acceptance limits. Test deviation applied to Method 8260 (VOCs).

COMMENTS: There were no quality assurance anomalies associated with these tests.

PRECISION PETROLEUM LABS, INC.'S RESPONSIBILITY FOR THE ABOVE ANALYSIS, OPINIONS OR INTERPRETATIONS IS LIMITED TO THE INVOICE AMOUNT. RESULTS ARE REPORTED ON AN "AS IS" BASIS, UNLESS OTHERWISE NOTED. THE TEST RESULTS RELATE ONLY TO THE SUBMITTED SAMPLE IDENTIFIED ON THIS REPORT. TEST RESULTS MEET ALL REQUIREMENTS OF NELAP FOR TESTS LISTED ON THE LABORATORY'S CURRENT FIELDS OF ACCREDITATION (EPA 1010, 6010, 8082, 8260, and 9075).

9

HOUSTON, TX 77057

PH 713-680-9425 FAX: 713-680-9564 WEBSITE: PRECISIONLABS.ORG

100

9:05 am
JS

PRECISION PETROLEUM LABS, INC.

CERTIFICATE OF ANALYSIS

LABORATORY ADDRESS 5915 Star Lane, Houston, TX 77057 Ph. 713-680-9425 Fax: 713-680-9564 Website: precisionlabs.org	Client Name: Thermo Fluids Salt Lake City, UT Street Address: 3545 W. 500 So City, State, Zip: Salt Lake City UT 84104
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INVOICE No.	61879	DATE RECEIVED	08-22-2014
LAB REFERENCE No.	2014-08-774	DATE/TIME COLLECTED	08-21-2014@4:00pm
AUTHORIZED BY	Robert Vaughn	MATRIX TYPE	Liquid
PRODUCT ID	(RFO 26) 17		

<u>TEST</u>	<u>TEST METHOD</u>	<u>REPORTING LIMIT</u>	<u>TEST RESULTS</u>
Gravity API @ 60°F	D-287	----	30.5
Flash Point, °F	S.W. 1010	-10°F	> 200
Viscosity CST @ 40°C	D-445	1	62.69
Pour point, °F	D-97	-10°F	< -10
Sulfur, Wt%	D-4294	0.020	0.3058
Ash, Wt%	D-482	0.001	0.795
Total halogen, PPM	S.W. 9077	----	PASS
Total halogen, PPM	S.W. 9075	200	BRL
PCB's, PPM	S.W. 8082	0.50	BRL
Water by distillation, Vol%	D-95	0.05	3.0
Sediment by extraction, Wt%	D-473	0.01	0.17
Heat of combustion, BTU/Lb	D-240	2,150	18,846
Heat of combustion, BTU/GAL	D-240	2,150	137,066
Pounds per gallon @ 60°F	----	---	7.273
Glycols, Wt%	G.C./FID	0.10	0.34

<u>Total Metal</u>	<u>Test Method</u>	<u>Preparation Method</u>	<u>Reporting Limit, PPM</u>	<u>Test Result</u>
Arsenic	EPA-6010C	EPA-3040	1.00	BRL
Barium	EPA-6010C	EPA-3040	1.00	1.74
Cadmium	EPA-6010C	EPA-3040	1.00	BRL
Chromium	EPA-6010C	EPA-3040	1.00	4.46
Lead	EPA-6010C	EPA-3040	2.00	20.44
Phosphorus	EPA-6010C	EPA-3040	1.00	788.28

Daniel Zabihl
QA Manager

Date: 08-25-2014


 PRIMARY ACCREDITATION TCEQ, #T104704203-TX
 ARIZONA LICENSE # AZ0630

QUALIFIERS & ABBREVIATIONS: BRL - Below Reporting Limit; SCL - Test performed by an approved subcontract laboratory; B - Analyte was detected in the associated method blank; Matrix spike/matrix spike duplicate (M), Laboratory control sample (L), Calibration criteria (C), and Surrogate (S) recoveries were outside acceptance limits. Test deviation applied to Method 8260 (VOCs).

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Tank #:		17		Lock Down Date:				Location #:		260	
Line #	Date	Truck ID	Driver Initials	BOL / Manifest Number(s)	Halogens in ppm	Incoming Gallons	Current Tank Gallons	Sample ID (OCT999-02152019)			
	8-25-14						889	STARTING GALLONS			
1	8/21/14	00114	LS	262328-84	200	4390 ¹	5279				
2	8/21/14	04123	CS	1615718-28	200	4365 ¹	9604				
3	8-25-14		RV				889	8753			
4											
5											
6											
7											
8											
9											
10											
11											
Tank Composite Sample ID#:											
Samples Shipped By (Name):								Date Shipped:		8/21/14	
FedEx Tracking Number:								Date/Time Rec'd at Lab:			

-site for 60 days - Use one log sheet per tank.

Authorized use, copying or distribution of this information is prohibited.

TANK 17

Tank #:		17		Lock Down Date: 8-11-14		Location #:		260	
Line #	Date	Truck ID	Driver Initials	BOL / Manifest Number(s)	Halogens In ppm	Incoming Gallons	Current Tank Gallons	Sample ID (OCT999-02152016)	
	8-5-14		RV				889	STARTING GALLONS	
1	8/8/14	CCT114	LG	2623255-65	200	4420	5309		
2	8-8-14	CCT555	J.P.	2623171 72	200	1275	6554		
3	8/11/14	CCT114	LG	2623266 74	200	4380	10914		
4	8/11/14	CT123	LG	2623460 75	200	4355	15164		
5	8-15-14		RV				889	14380g. 48A-26 T026	
6	8/15/14	CCT116	LG	2623318-27	200	4270	5159		
7	8/15/14	CCT116	LG	2623327-31	200	1570	6669		
8	8/16/14	OCT555	J.P.	2623670 73	300	810	4779		
9	8-20-14		RV				889	13890g. 48A-26 T026	
10									
11									
Tank Composite Sample ID#:				TANK 17 08/11/14					
Samples Shipped By (Name):				ROBERT VAUGHN		Date Shipped:		8-19-14	
FedEx Tracking Number:				770888764259		Date/Time Rec'd at Lab:			

-site for 60 days - Use one log sheet per tank.

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TANK 17

PRECISION PETROLEUM LABS, INC.

5915 STAR LANE HOUSTON, TX 77057
PH 713-680-9425 FAX: 713-680-9564 WEBSITE: PRCISIONLABS.ORG

CHAIN OF CUSTODY

[illegible]

OTHER METALS(PLEASE CIRCLE): AG, AL, BA, BE, B, CA, CO, FE, PB, MG, MN, HG, MO, NI, P, K, SE, SI, NA, TL, SN, TI, V, ZN

11:00 A ✓

PRECISION PETROLEUM LABS, INC.

CERTIFICATE OF ANALYSIS

LABORATORY ADDRESS 5915 Star Lane, Houston, TX 77057 Ph. 713-680-9425 Fax: 713-680-9564 Website: precisionlabs.org	Client Name: Thermo Fluids Salt Lake City, UT Street Address: 3545 W. 500 So City, State, Zip: Salt Lake City UT 84104
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INVOICE No.	61879	DATE RECEIVED	08-19-2014
LAB REFERENCE No.	2014-08-651	DATE/TIME COLLECTED	08-18-2014@4:00pm
AUTHORIZED BY	Robert Vaughn	MATRIX TYPE	Liquid
PRODUCT ID	(RFO 26) 17,18		

<u>TEST</u>	<u>TEST METHOD</u>	<u>REPORTING LIMIT</u>	<u>TEST RESULTS</u>
Gravity API @ 60°F	D-287	----	29.9
Flash Point, °F	S.W. 1010	-10°F	> 200
Viscosity CST @ 40°C	D-445	1	55.57
Pour point, °F	D-97	-10°F	< -10
Sulfur, Wt%	D-4294	0.020	0.2739
Ash, Wt%	D-482	0.001	0.686
Total halogen, PPM	S.W. 9077	----	PASS
Total halogen, PPM	S.W. 9075	200	226
PCB's, PPM	S.W. 8082	0.50	BRL
Water by distillation, Vol%	D-95	0.05	5.6
Sediment by extraction, Wt%	D-473	0.01	0.15
Heat of combustion, BTU/Lb	D-240	2,150	18,274
Heat of combustion, BTU/GAL	D-240	2,150	132,669
Pounds per gallon @ 60°F	----	---	7.260
Glycols, Wt%	G.C./FID	0.10	0.58

<u>Total Metal</u>	<u>Test Method</u>	<u>Preparation Method</u>	<u>Reporting Limit, PPM</u>	<u>Test Result</u>
Arsenic	EPA-6010C	EPA-3040	1.00	BRL
Barium	EPA-6010C	EPA-3040	1.00	3.48
Cadmium	EPA-6010C	EPA-3040	1.00	BRL
Chromium	EPA-6010C	EPA-3040	1.00	BRL
Lead	EPA-6010C	EPA-3040	2.00	BRL
Phosphorus	EPA-6010C	EPA-3040	1.00	661.68


 Daniel Zabihi
 QA Manager

Date: 08-20-2014


 PRIMARY ACCREDITATION TCEQ, #T104704203-TX
 ARIZONA LICENSE # AZ0630

QUALIFIERS & ABBREVIATIONS: BRL - Below Reporting Limit; SCL - Test performed by an approved subcontract laboratory; B - Analyte was detected in the associated method blank; Matrix spike/matrix spike duplicate (M), Laboratory control sample (L), Calibration criteria (C), and Surrogate (S) recoveries were outside acceptance limits. Test deviation applied to Method 8260 (VOCs).

COMMENTS: There were no quality assurance anomalies associated with these tests.

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TANK #		18		Look Down Into:		882-		Location #		260	
Date	Time	Truck ID	Driver Name	Oil / Material Number(s)	Hydrogens in PPM	Moisture in Gallons	Current Temp in Gallons	Sample ID (Oct 18, 05, 12, 14)			
8-7-14							789	STARTING GALLONS			
8/12/14		6CT116	AK			4250					
						4515	9654				
8/12/14			SP	262375	400	9700	1000				
							9735	9846g 483013 Fer			
8-15-14			AV				889				
8/18/14		6CT116	AK	262333241	200	3300	4249				
8/18/14		6CT116	SS	262352-11	200	4600	6359				
8-22-14			AK				669	7420g.			
Tank empty. Sample ID:											
Sample Shipped By (Name):											
Tank Tracking Number:											
7401808081214							Date Shipped:		8-12-14		
770815216770							Delivery Received Date:				

site for 60 days - Use one log sheet per tank.

-site for 60 days - Use one log sheet per tank.

Unauthorized use, copying or distribution of this information is prohibited.

TANK 18

HOME GAUGE 36"-4" 54L/PT. 7197
 HEIGHT 36" 0"
 WEIGHT 36" 0"
 CAPACITY 2,549.095

OPERATIONS TANK

56177

Date	Time	Ticked Gallons	Received		Shipped		Current Tank Volume		Employee	Comments
			Gauge	Gals.	Gauge	Gals.	Gauge	Gals.		
8-19-14		4052				4052	51125	7P	364134	(2623680) Methanol
8-19-14		5354				5354	46771	7P	04134	(2623681) Methanol
8-20-14		9004				9004	37762	7P	04121	(2623682) Methanol
8-20-14		9406				9406	28361	5R	04158	(2623683) Methanol
8-20-14							42291	7P	04158	(2623684) Methanol
8-20-14							49671	7P	04158	(2623685) Methanol
8-20-14		9375				9375	59046	5R	04158	(2623686) Methanol
8-20-14		9375				9375	49621	5R	04158	(2623687) Methanol
8-23-14		9412				9412	58358	7P	04158	(2623688) Methanol
8-23-14							48944	7P	04158	(2623689) Methanol
8-25-14							52179	7P	04158	(2623690) Methanol
8-25-14							61219	7P	04158	(2623691) Methanol
8-25-14		9415				9415	69979	7P	04158	(2623692) Methanol
8-25-14		9425				9425	60859	7P	04158	(2623693) Methanol
8-27-14							69984	5R	04158	(2623694) Methanol
9-6-14							79399	7P	04158	(2623695) Methanol
9-6-14							93709	7P	04158	(2623696) Methanol

FO 26

PRECISION PETROLEUM LABS, INC.

CERTIFICATE OF ANALYSIS

LABORATORY ADDRESS 5915 Star Lane, Houston, TX 77057 Ph. 713-680-9425 Fax: 713-680-9564 Website: precisionlabs.org	Client Name: Thermo Fluids Salt Lake City, UT Street Address: 3545 W. 500 So City, State, Zip: Salt Lake City UT 84104
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INVOICE No.	61879	DATE RECEIVED	08-26-2014
LAB REFERENCE No.	2014-08-850	DATE/TIME COLLECTED	08-21-2014@4:00pm
AUTHORIZED BY	Robert Vaughn	MATRIX TYPE	Liquid
PRODUCT ID	(RFO 26) 18		

<u>TEST</u>	<u>TEST METHOD</u>	<u>REPORTING LIMIT</u>	<u>TEST RESULTS</u>
Gravity API @ 60°F	D-287	----	28.1
Flash Point, °F	S.W. 1010	-10°F	> 200
Viscosity CST @ 40°C	D-445	1	59.84
Pour point, °F	D-97	-10°F	< -10
Sulfur, Wt%	D-4294	0.020	0.2343
Ash, Wt%	D-482	0.001	0.737
Total halogen, PPM	S.W. 9077	----	PASS
Total halogen, PPM	S.W. 9075	200	407
PCB's, PPM	S.W. 8082	0.50	BRL
Water by distillation, Vol%	D-95	0.05	10.4
Sediment by extraction, Wt%	D-473	0.01	0.16
Heat of combustion, BTU/Lb	D-240	2,150	17,328
Heat of combustion, BTU/GAL	D-240	2,150	127,932
Pounds per gallon @ 60°F	----	---	7.383
Glycols, Wt%	G.C./FID	0.10	1.99

<u>Total Metal</u>	<u>Test Method</u>	<u>Preparation Method</u>	<u>Reporting Limit, PPM</u>	<u>Test Result</u>
Arsenic	EPA-6010C	EPA-3040	1.00	BRL
Barium	EPA-6010C	EPA-3040	1.00	7.25
Cadmium	EPA-6010C	EPA-3040	1.00	BRL
Chromium	EPA-6010C	EPA-3040	1.00	2.34
Lead	EPA-6010C	EPA-3040	2.00	2.37
Phosphorus	EPA-6010C	EPA-3040	1.00	660.01

Daniel Zabihi
QA Manager

Date: 08-27-2014



PRIMARY ACCREDITATION TCEQ, #T104704203-TX
ARIZONA LICENSE # AZ0630

QUALIFIERS & ABBREVIATIONS: BRL - Below Reporting Limit; SCL - Test performed by an approved subcontract laboratory; B - Analyte was detected in the associated method blank; Matrix spike/matrix spike duplicate (M), Laboratory control sample (L), Calibration criteria (C), and Surrogate (S) recoveries were outside acceptance limits. Test deviation applied to Method 8260 (VOCs).

COMMENTS: There were no quality assurance anomalies associated with these tests.

PRECISION PETROLEUM LABS, INC.'S RESPONSIBILITY FOR THE ABOVE ANALYSIS, OPINIONS OR INTERPRETATIONS IS LIMITED TO THE INVOICE AMOUNT. RESULTS ARE REPORTED ON AN "AS IS" BASIS, UNLESS OTHERWISE NOTED. THE TEST RESULTS RELATE ONLY TO THE SUBMITTED SAMPLE IDENTIFIED ON THIS REPORT. TEST RESULTS MEET ALL REQUIREMENTS OF NELAC FOR TESTS LISTED ON THE LABORATORY'S CURRENT FIELDS OF ACCREDITATION (EPA 1010, 6010, 8082, 8260, and 9075).

PRECISION PETROLEUM LABS, INC.

CERTIFICATE OF ANALYSIS

LABORATORY ADDRESS 5915 Star Lane, Houston, TX 77057 Ph. 713-680-9425 Fax: 713-680-9564 Website: precisionlabs.org	Client Name: Thermo Fluids Salt Lake City, UT Street Address: 3545 W. 500 So City, State, Zip: Salt Lake City UT 84104
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INVOICE No.	61879	DATE RECEIVED	08-28-2014
LAB REFERENCE No.	2014-08-941	DATE/TIME COLLECTED	08-27-2014@1:45PM
AUTHORIZED BY	Darren Myers	MATRIX TYPE	Liquid
PRODUCT ID	JBT AEROTECH / OGDEN		

TEST

PCB's, PPM(Dry Basis) (1016)
PCB's, PPM (Wet Basis) (1016)

TEST

METHOD

S.W. 8082
S.W. 8082

REPORTING

LIMIT

0.50
0.50

TEST

RESULTS

547.79
49.39

Daniel Zabih
QA Manager

Date: 08-28-2014



PRIMARY ACCREDITATION TCEQ, #T104704203-TX
ARIZONA LICENSE # AZ0630

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		18					260
						STARTING GALLONS	
1	8-22-14		10			829	
2	8/22/14	0.711	10	21.23385-41	2.1	4576	5154
3	8/22/14	0.711	10	21.23385-42	2.0	840	6211
4	8/22/14	0.711	10	21.23385-43	2.0	4300	10000
5	8/25/14	0.711	10	21.23385-44	2.0	4300	15199
6	9/8/14		10			881	Trans to 26
7							
8							
9							
10							
11							

site for 60 days - Use one log sheet per tank.
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